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**Overview of the Plasma Liner Experiment (PLX)** S.C. HSU, LANL, F.D. WITHERSPOON, HyperV Tech., M.A. GILMORE, UNM, J.T. CASSIBRY, UAH, THE PLX TEAM — The Plasma Liner Experiment (PLX), to be built at LANL, will explore and demonstrate the feasibility of forming imploding spherical “plasma liners” that can reach peak pressures  $\sim 0.1$  Mbar upon stagnation. The liners will be formed via merging of 30 dense, high Mach number plasma jets ( $n \sim 10^{17} \text{ cm}^{-3}$ ,  $M \sim 10\text{--}35$ ,  $v \sim 50\text{--}70 \text{ km/s}$ ,  $r_{jet} \sim 5 \text{ cm}$ ) in spherically convergent geometry. This is a staged, exploratory project where scientific issues will be studied first at modest stored energies ( $\sim 300 \text{ kJ}$ ) before attempting to reach HED-relevant pressures (requiring  $\sim 1.5 \text{ MJ}$ ). We have arrived at these numbers via extensive 3D hydrodynamic simulations. The primary scientific goals are to identify/resolve physics issues and to develop a predictive understanding of plasma liner formation, liner ram pressure amplification during liner convergence, conversion of liner kinetic energy to thermal/radiation energy of the stagnated system, and confinement time of this energy. We are aiming for two scaled-up follow-on applications for this work if it is successful: (1) assembling repetitive, macroscopic (cm and  $\mu\text{s}$  scale) plasmas suitable for fundamental HEDP studies and (2) a standoff driver solution for magneto-inertial fusion. This poster provides an overview of the project and the research plan. Supported by the DOE Joint Program in HEDLP.

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